

AMENDMENTS TO THE CLAIMS

IN THE CLAIMS:

Claims 1-26 (cancelled).

27. (Original) A flame retardant thermoplastic polyurethane composition comprising:

(a) at least one thermoplastic polyurethane polymer, said thermoplastic polyurethane polymer made by reacting at least one hydroxyl terminated intermediate with at least one isocyanate and at least one chain extender, wherein a cross linking agent having a functionality of greater than 2.0 is added at a level of from about 0.05 to about 2.0 mole percent based on the total moles of said chain extender; and

(b) at least one flame retardant additive capable of lowering the molecular weight of said thermoplastic polyurethane polymer during melt processing of said thermoplastic polyurethane composition.

28. (Original) A flame retardant thermoplastic polyurethane composition of claim 27 wherein the amount of said cross linking agent present is a level of from about 0.2 to about 1.0 mole percent based on the total moles of said chain extender present in said thermoplastic polyurethane composition.

29. (Original) A flame retardant thermoplastic polyurethane composition of claim 28 wherein said flame retardant additive is selected from melamine, melamine cyanurate, melamine borate, melamine phosphate, melamine derivatives, organic phosphates, organic phosphonates and mixtures thereof.

30. (Original) A flame retardant thermoplastic polyurethane composition of claim 29 wherein said thermoplastic polyurethane polymer is a polyether polyurethane polymer and said flame retardant is melamine cyanurate and said cross linking agent is trimethylol propane.

31. (Previously Presented) A wire and cable construction capable of passing both the requirements of UL-1581 section 1080 and UL-1581 section 1080 subject 758 section G tests comprising:

- (a) at least one metal conductor wherein said conductor is insulated with a non-conducting polymeric material; and
- (b) a flame retarded jacket covering said insulated metal conductor; wherein said jacket is a thermoplastic polyurethane composition comprising:
 - (i) at least one thermoplastic polyurethane polymer; and
 - (ii) from about 28 to about 50 weight percent of melamine cyanurate as the sole organic flame retardant additive; said weight percent based on the weight of said composition, and wherein said thermoplastic polyurethane composition has an ultimate tensile strength greater than 2900 psi and a weight average molecular weight (Mw), as measured on said thermoplastic polyurethane polymer in a finished article, greater than 100,000 Daltons.

32. (Original) A wire and cable construction of claim 31 wherein said melamine cyanurate is present at a level of from about 34 to about 45 weight percent.

33. (Original) A wire and cable construction of claim 32 wherein said melamine cyanurate is present at a level of from about 35 to about 45 weight percent.

34. (Original) A wire and cable construction of claim 31 wherein said thermoplastic polyurethane composition has a molecular weight of from about 100,000 to about 160,000 Daltons.

35. (Original) A wire and cable construction of claim 31 wherein said thermoplastic polyurethane polymer is selected from polyether polyurethane, polyester polyurethane and polycarbonate polyurethane.

36. (Original) A wire and cable construction of claim 31 wherein said thermoplastic polyurethane polymer is a polyether polyurethane.
37. (Original) A wire and cable construction of claim 31 wherein said thermoplastic polyurethane polymer is a blend of at least one polyether polyurethane and at least one polyester polyurethane.
38. (Original) A wire and cable construction of claim 31 wherein said thermoplastic polyurethane composition has an ultimate tensile strength greater than 3500 psi.
39. (Original) A wire and cable construction of claim 38 wherein said thermoplastic polyurethane polymer has a molecular weight of from about 100,000 to about 160,000 Daltons and wherein said melamine cyanurate is present at a level of from about 35 to about 45 weight percent.
40. (Original) A wire and cable construction of claim 31 wherein said construction has from 2 to 8 insulated metal conductors that are covered by said flame retarded jacket.
41. (Original) A wire and cable construction of claim 40 wherein said construction has from 3 to 5 insulated metal conductors that are covered by said flame retarded jacket.
42. (Previously Presented) A process for producing a wire and cable construction capable of passing both the requirements of UL-1581 section 1080 and UL-1581 section 1080 subject 758 section G tests comprising:
- (a) extruding an insulation layer of a non-conducting polymeric material onto at least one metal conductor; and
 - (b) extruding a flame retardant jacket to cover said insulated metal conductor; wherein said jacket is a thermoplastic polyurethane composition comprising:
 - (i) at least one thermoplastic polyurethane polymer; and

(ii) from about 28 to about 50 weight percent of melamine cyanurate as the sole organic flame retardant additive, said weight percent based on the weight of said composition, and wherein said thermoplastic polyurethane composition has an ultimate tensile strength greater than 2900 psi and a weight average molecular weight (Mw), as measured on said thermoplastic polyurethane polymer in a finished article, greater than 100,000 Daltons.

43. (Original) A process of claim 42 wherein said melamine cyanurate is present at a level of from about 34 to about 45 weight percent.

44. (Original) A process of claim 43 wherein said melamine cyanurate is present at a level of from about 35 to about 45 weight percent.

45. (Original) A process of claim 42 wherein said thermoplastic polyurethane composition has a molecular weight of from about 100,000 to about 160,000 Daltons.

46. (Original) A process of claim 42 wherein said thermoplastic polyurethane polymer is selected from polyether polyurethane, polyester polyurethane, and polycarbonate polyurethane.

47. (Original) A process of claim 46 wherein said thermoplastic polyurethane polymer is a polyether polyurethane.

48. (Original) A process of claim 42 wherein said thermoplastic polyurethane polymer is a blend of at least one polyether polyurethane and at least one polyester polyurethane.

49. (Original) A process of claim 42 having an ultimate tensile strength greater than 3500 psi.

50. (Original) A process of claim 49 wherein said thermoplastic polyurethane polymer has a molecular weight of from about 100,000 to about 160,000 Daltons and wherein said melamine cyanurate is present at a level of from about 35 to about 45 weight percent.

51. (Original) A process of claim 42 wherein said wire and cable construction has from 2 to 8 insulated metal conductors that are covered by said flame retardant jacket.

52. (Original) A process of claim 51 wherein said metal conductors in said wire and cable construction are insulated by a layer of a polymeric material selected from polyvinyl chloride, polyethylene, cross-linked polyethylene, and fluorocarbon polymer and wherein said insulated metal conductors are covered by said flame retarded jacket.

53. (Original) A process of claim 42 wherein said thermoplastic polyurethane composition ingredients are mixed in a twin screw extruder having a feed end and a die end and said extruder having multiple heat zones and multiple feed ports between said feed end and said die end; wherein said melamine cyanurate is added to said extruder in a heat zone which is closer to said die end than the heat zone where said thermoplastic polyurethane polymer is added to said extruder; and wherein said thermoplastic polyurethane composition exiting said die end of said extruder is formed into said jacket for said wire and cable construction prior to cooling to ambient temperature and without first going through a pelletizing step.

54. (Original) A thermoplastic polyurethane composition having a LOI % less than about 25, as measured according to ASTM D2863, and a PRHR less than about 310 kW/m^2 , as measured by a Cone Calorimeter according to ASTM E-1354 with a heat flux of 35 kW/m^2 .

55. (Original) A thermoplastic polyurethane composition of claim 54 having a LOI % less than about 24 and a PRHR less than about 295 kW/m^2 .